



PATENT COOPERATION TREATY

PCT

Rec'd PCT/PTO 15 MAR 2005

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference AJBB/JC/JR		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/GB 03/03965	International filing date (day/month/year) 16.09.2003	Priority date (day/month/year) 16.09.2002	
International Patent Classification (IPC) or both national classification and IPC B43K23/00			
Applicant RICHARDS, John Michael			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 4 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 7 pages sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>			
Date of submission of the demand 18.03.2004		Date of completion of this report 09.02.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Louvion, B Telephone No. +49 89 2399-2845 	

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB 03/03965

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-5 filed with telefax on 11.11.2004

Claims, Numbers

1-8 filed with telefax on 11.11.2004

Drawings, Sheets

1 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

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5. ☒ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

see separate sheet

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1
Inventive step (IS)	Yes: Claims	
	No: Claims	2-8
Industrial applicability (IA)	Yes: Claims	1-8
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB 03/03965

I. Ad Section I.:

- 1 Reference is made to the following documents:
D1: US-A-5468083
D2: GB-A-2039254
- 2 The amendment filed with the fax dated **11.11.2004** introduces subject-matter which extends beyond the content of the application as filed, contrary to Article 41(2) PCT. The amendment concerned is the following:
 - (1) in which the grip is provided with the same cross-section along its longitudinal axis.
- 2.1 This amendment is not directly and unambiguously derivable from that previously presented by the application, even when account is taken of matter which is implicit to a person skilled in the art.
- 2.2 The attention of the applicant is drawn to the fact that the application may not be amended in such a way that it contains subject-matter which extends beyond the content of the application as filed, Article 41(2) PCT.
- 2.3 For this reason, the report shall be established as if such amendment had not been made, Rule 70.2c) PCT.

II. Ad Section V.:

- 3 The present application does not meet the requirements of Article 33 and Rule 33 PCT because the subject-matter of claim **1** is not new.
- 4 Document **D1**, which is considered to represent the most relevant state of the art, discloses a device which does not differ from what is defined in claim **1**.
A hand held instrument having a triangular cross-section provided with a concavity adapted to receive the user's fingers is disclosed in **D1**, fig. 7, 8 and the corresponding description.
- 4.1 The attention of the applicant is drawn to the fact that, as document **D2** describes also all the features of claim **1**, so claim **1** is neither new nor inventive.
- 5 Dependent claims **2-8** do not appear to contain any additional features which, in combination with the features of any claim to which they refer, involve an inventive step.
- 6 The claimed invention for which protection is sought can be made or used (in the technological sense) in any kind of industry and shall therefore be considered industrially applicable according to Article 33(4)PCT.

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GRIP FOR HAND HELD INSTRUMENTS

This invention relates to a novel hand grip for tools held between the fore finger, middle finger and thumb in the manner of a writing instrument.

Pens, pencils and other tools held in the same manner are commonly cylindrical in shape, and dimensioned to fit between the digits. However, in use such items can cause discomfort, due to the digits being pressed up against the cylindrical shape for a prolonged period.

It is known to provide a more ergonomically shaped grip section for a writing implement. Common examples comprise a tapered grip section, or a padded resilient grip section. The present invention is intended to provide a novel approach.

When an individual learns to write, it is important to learn to grip the writing instrument in the traditional way. However, writing implements can be gripped in multiple ways, which can lead to confusion and/or the adoption of an incorrect writing style.

Further, particular writing instruments must be held at a particular rotation, for example a fountain pen which must have the tip of the nib placed squarely onto the writing surface. In addition, a "carpenter's pencil" which has an irregularly shaped lead cross-section, for example a rectangle, must be held at a certain rotation in order to write in a particular manner, for example in a classical style with a broad down stroke and a narrow cross stroke. If instruments like those described are held at an incorrect rotation it can lead to damage to the instrument or an undesired writing result.

The present invention is also intended to overcome some of these problems.

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According to the present invention a hand held instrument adapted to be held in use between a user's fore finger, middle finger and thumb in the manner of a writing instrument, comprises an instrument grip provided with a substantially triangular cross-section, in which a first side and a second side of the cross-section are provided with a concavity adapted to receive a portion of either the user's fore finger or thumb in use, in which the grip is provided with the same cross-section along its longitudinal axis.

Preferably the instrument grip may be dimensioned to fit inside the substantially triangular aperture in which a first side and a second side are concave, which is formed by portions of the user's fore finger, middle finger and thumb when they are held together in a manner suitable to grip a writing instrument. Therefore, the instrument grip is preferably smaller in size than a conventional writing instrument.

In a preferred construction the concavities can extend along the whole of the first and second sides of the triangle, and are shaped and dimensioned to substantially correspond to the curvature of the underside of the fore finger and thumb.

In one construction the instrument may be a writing instrument. It will be appreciated that the instrument can be any implement which is held in the manner of a writing instrument.

Preferably the third side of the triangle can be substantially flat, so it can be rested on the side of the middle finger in use. This arrangement is suited to constructions in which the instrument must be held a particular way up, for example a fountain pen or a carpenter's pencil, because the grip can only be held comfortably with the first and second sides uppermost. It will be appreciated that it will be immediately clear to the user of the instrument if it is not held at the correct rotation because it will be uncomfortable to use. This embodiment can also be used with

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other tools, for example surgical instruments, which may also need to be held at a particular rotation.

In a preferred embodiment when the third side of the triangle is rested on the middle finger in use, the active surface or point of the tool can be the correct way up. For example, if it is desired to write in a classical style with a carpenter's pencil, the flat side may be substantially parallel with the broad surface of the lead in the pencil.

However, in an alternative construction the first, second and third sides of the triangle can be provided with a curved recess, so that the tool can be held comfortably any way up.

It will be appreciated that the user can have hands of any size, and therefore the instrument can be provided in a number of dimensions to suit any user from a child to an adult.

The invention can be performed in various ways but one embodiments will now be described by way of example, and with reference to the accompanying drawings, in which:

Figure 1 is a cross-sectional front view of a pen according to the present invention;

and,

Figure 2 is a front view of the pen shown in Figure 1 in use.

As shown in Figure 1 a hand held instrument adapted to be held in use between a user's fore finger, middle finger and thumb in the manner of a writing instrument, in the form of ink pen 1, comprises an instrument grip 2 provided with a triangular cross-section, in which a first side 3 and a second side 4 of the cross-section are provided with a concavity adapted to receive a portion of either the user's

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fore finger 5 or thumb 7 in use. As is clear from Figures 1 and 2 the grip 2 has the same cross-section along its longitudinal axis, and does not increase or decrease in size along this axis.

As is shown in the Figures, the whole of the first side 3 and the second side 4 are shaped as concavities.

The third side 8 of the triangular cross-section is flat, and the first and second sides 3 and 4 are shaped to receive the physical shape of the fore finger 5 and the thumb 7.

Therefore, as shown in Figure 2, the instrument grip 2 is adapted to be held in use between the fore finger 5 and thumb 7 in the traditional way, with the third side 8 seated on the side 9 of the middle finger 6. The ink pen is provided with an ink cartridge 1a.

As is shown in Figure 2, the instrument grip 2 is dimensioned to fit inside a substantially triangular aperture in which a first side and a second side are concave, which is formed by portions of the user's fore finger 5, middle finger 6 and thumb 7 when they are held together in a manner suitable to grip a writing instrument.

Thus, when the ink pen 1 is gripped for use, the fore finger 5 and thumb 6 are not misshaped under the pressure of the user's grip.

It will also be appreciated that the ink pen 1 can only be gripped comfortably in the traditional manner between the fore finger 5, middle finger 6 and thumb 7. Therefore, the ink pen 1 can be used as a tool to teach the correct method of holding an instrument for writing.

Further, the embodiment described can be used with ink pens or other instruments which must be held at a particular rotation, for example a fountain pen or a carpenter's pencil.

In a further embodiment, not shown, a writing instrument is substantially the same shape as the pen 1 shown in Figures 1 and 2, but is dimensioned to be used by a child.

In a further embodiment, not shown, a writing instrument is provided with a concavity on all three sides of the triangular grip, so it can be held comfortably any way up.

Thus, a tool which is held in the manner of a writing instrument is provided which can be used without causing discomfort to the digits. Further, a teaching implement is provided which can be used to teach the correct method to hold a writing instrument, or any other implement. In addition, a tool grip is provided which can be used to correctly orientate an instrument which must be held at a particular rotation for use.

Claims

1. A hand held instrument adapted to be held in use between a user's fore finger, middle finger and thumb in the manner of a writing instrument, comprising an instrument grip provided with a substantially triangular cross-section, in which a first side and a second side of the cross-section are provided with a concavity adapted to receive a portion of either the user's fore finger or thumb in use, in which the grip is provided with the same cross-section along its longitudinal axis.
2. A hand held instrument as claimed in Claim 1 in which the instrument grip is dimensioned to fit inside a substantially triangular aperture in which a first side and a second side are concave, which is formed by portions of the user's fore finger, middle finger and thumb when they are held together in a manner suitable to grip a writing instrument.
3. A hand held instrument as claimed in Claim 1 or 2 in which the concavity provided on the first side and the second side of the cross-section extends along the whole length of the first side and the second side.
4. A hand held instrument as claimed in Claim 3 in which a third side of the cross-section is substantially flat.
5. A hand held instrument as claimed in Claim 4 in which the instrument comprises an active end which must be disposed at a particular rotation in order to function correctly, and in which when the third side is rested on the middle finger in use, the active end is substantially disposed at said particular rotation.
6. A hand held instrument as claimed in Claim 3 in which a third side of the cross-section is provided with a concavity adapted to receive either the user's fore finger or thumb in use.

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7. A hand held instrument as claimed in Claim 6 in which the instrument comprises an active end which can be disposed at any rotation in order to function correctly.

8. A hand held instrument as claimed in any of the preceding Claims in which the instrument is a writing instrument.